



Kirkland

MADISON HOUSE INDEPENDENT AND ASSISTED LIVING PEAK PARKING DEMAND ANALYSIS

April 17, 2015



JTE . Jake Traffic Engineering, Inc.

Mark J. Jacobs, PE, PTOE, President 2614 39th Ave SW – Seattle, WA 98116 – 2503 Tel. 206.762.1978 - Cell 206.799.5692 E-mail jaketraffic@comcast.net







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President

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April 17, 2015

RJ DEVELOPMENT Joshua Snodgrass, Associate AIA, Design and Development Coordinator 401 Central St SE Olympia, WA 98501

Re:

Madison House Independent and Assisted Living - Kirkland

Peak Parking Demand Analysis

Dear Mr. Snodgrass,

I have prepared this Peak Parking Demand Analysis for an existing 147 units retirement facility that provides 78 parking stalls. This existing facility located at 12215 NE 128th Street has sufficient parking but is under parked per Kirkland Zoning Code. The development of the Madison House, a 60 unit (80 bed Memory Care facility) to be located east of the existing facility, includes a lot line adjustment thus the existing facility's parking sufficiency needs to be determined.

I understand the existing facility is currently set to be about 50% Independent Living and 50% Assisted Living and over time the Assisted Living portion would increase to about 75% over time. As of April 6 there were 103 units occupied, which is 70%. Of the 103 occupied units, 41 were assisted living units and 62 were independent living units.

The City of Kirkland Zoning Code Chapter 105 PARKING AREAS, VEHICLE AND PEDESTRIAN ACCESS, AND RELATED IMPROVEMENTS identifies the number of parking spaces required is the minimum required based on zones. City code identifies a requirement of 1.7 parking spaces per Independent Living unit and 1 stall per Assisted Living unit. Thus the existing facility requires 189 parking stalls (74 ILU's x 1.7 stall/unit + 73 ALU's x 1 stall/unit).

Kirkland Zoning Code Section 105.103 Modifications Subsection 3.c states the following:

For a modification to KZC <u>105.20</u> and <u>105.45</u>, a decrease in the required number of spaces may be granted if the number of spaces proposed is documented by an adequate and thorough parking demand and utilization study to be sufficient to fully serve the use. The study shall be prepared by a licensed transportation engineer or other qualified professional, and shall analyze the operational characteristics of the proposed use which justify a parking reduction. The scope of the study shall be proposed by the transportation engineer and approved by the City traffic engineer. The study shall provide at least two (2) days of data for morning, afternoon and evening hours, or as otherwise approved or required by the City traffic engineer. Approval of a parking reduction shall be solely at the discretion of the City. A

RJ DEVELOPMENT

Joshua Snodgrass, Associate AIA, Design and Development Coordinator April 17, 2015 $\,$

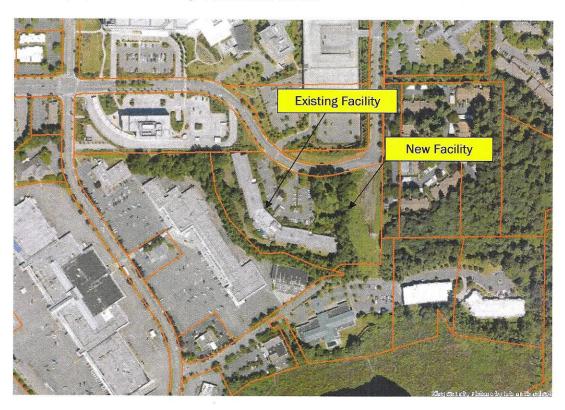
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decrease in the minimum required number of spaces may be based in whole or part on the provision of nationally accepted TDM (transportation demand management) measures. Data supporting the effectiveness of the TDM measures shall be provided as part of the parking demand and utilization study and approved by the City traffic engineer.

The Planning Official shall not approve or deny a modification to decrease the number of parking spaces pursuant to subsection (2)(b) of this section without first providing notice of the modification request to the owners and residents of property within 300 feet of the subject property and providing opportunity for comment. The Planning Official shall use mailing labels provided by the applicant, or, at the discretion of the Planning Official, by the City. Said comment period shall not be less than seven (7) calendar days.

This report is prepared to identify the peak parking demand for the existing Madison House facility per City requirements. In addition, the Institute of Transportation Engineers (ITE) parking data is discussed.

An aerial of the site obtained from King County IMap is depicted below. The existing facility and the proposed new facility location are shown.



The summary, conclusions and recommendations are on page 5 of this report.

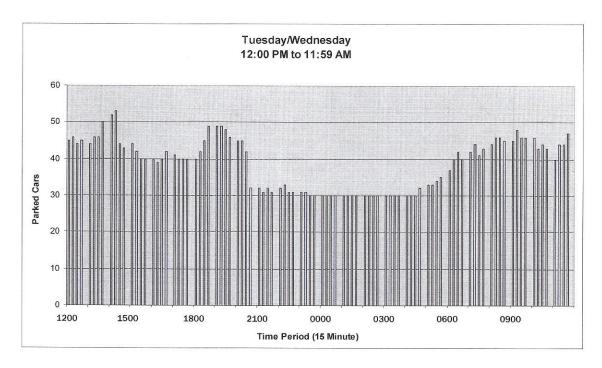
RJ DEVELOPMENT Joshua Snodgrass, Associate AIA, Design and Development Coordinator April 17, 2015 Page -3-

PARKING IMPACT ANALYSIS

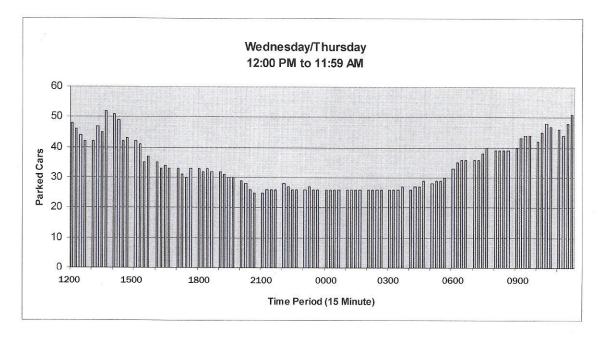
The City Parking Modification identifies that the study provide at least two (2) days of data for morning, afternoon and evening hours. JTE, Inc. retained the services of Traffic Count Consultants (TC2), a firm specializing in the collection of traffic and parking data. Parking data was collected for two days, Tuesday March 31 and Wednesday April 1, 2015. The data was collected 48 hours using camera technology. The overall parking supply for the study site is 78 stalls; 0.53 stalls/unit.

The existing facility is in the process of converting existing Independent Living units to Assisted Living units and at the time of the study was 70% occupied. Construction workers/activity and parking activity was occurring. The traffic data was collected via cameras at both driveways. The data was reduced by TC2 into 15 minutes time intervals into an excel spreadsheet; and the construction vehicle parking was segregated out. In addition TC2 conducted two calibration counts, one at the start of the data collection and the other at the end.

The following graphs depict the parking demand in 15 minute intervals based on the data calibrated to the highest calibration count data.



RJ DEVELOPMENT Joshua Snodgrass, Associate AIA, Design and Development Coordinator April 17, 2015 Page -4-



The highest observed parking demand is 53 vehicles on Tuesday at 1430. Most hours of the day it was well below 50. Factoring for occupancy (at 70%) the aforementioned values indicate the highest demand at 76 stalls with typical demand well below this value.

ITE Peak Parking

The Institute of Transportation Engineers (ITE) <u>Parking Generation</u> 4th Edition identifies the average peak parking demand for an Independent Living unit 0.59 stalls/unit and for an Assisted Unit 0.41 stalls/unit. The respective 85% values are 0.66/unit and 0.54/unit.

The existing site provides 0.53 stalls per unit that based on the collected data are sufficient.

Summary

The parking data collected showed the peak parking demand of the existing facility at 76 stalls; 0.52 stalls/unit. This existing facility is trending to Assisted Living units that have lower parking demands.

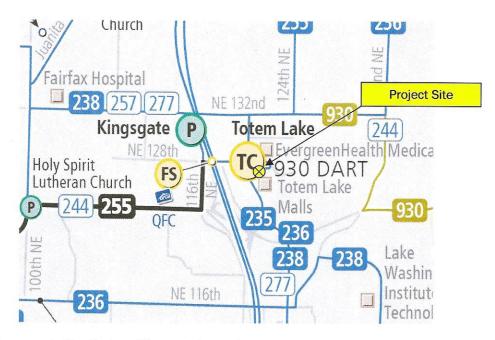
TRANSIT SERVICE

The map below is the pertinent section of the Metro Transit System Map depicting transit service in the site vicinity. Further information on these routes can be found on the Metro Transit website. (http://transit.metrokc.gov/).

RJ DEVELOPMENT

Joshua Snodgrass, Associate AIA, Design and Development Coordinator April 17, 2015

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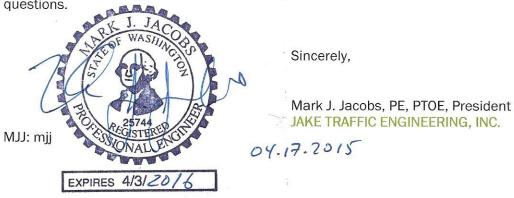
As can be seen in the System Map good transit service exists in the site vicinity. The collected parking demand data accounts for transit service.

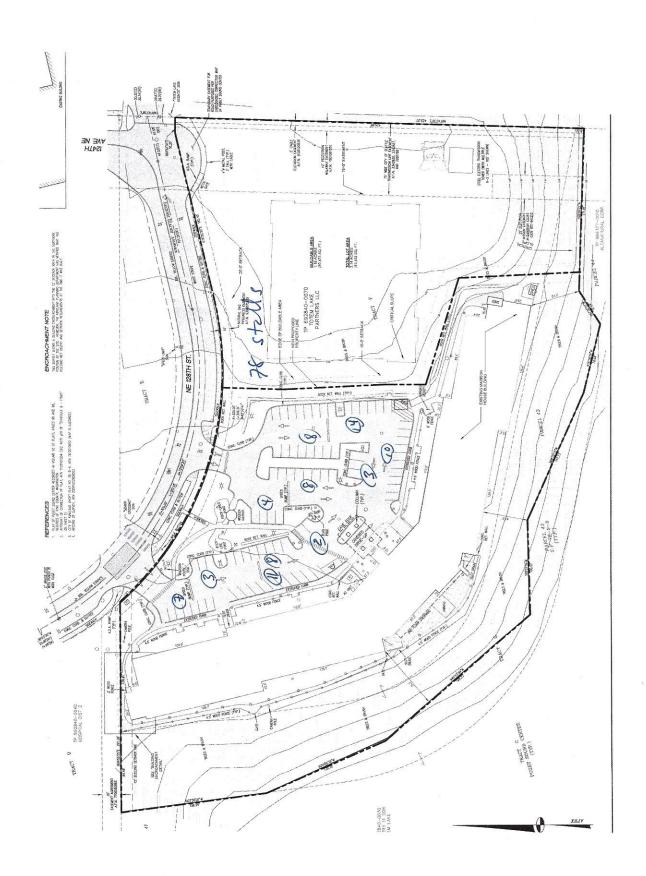
SUMMARY AND CONCLUSIONS

This report analyzed the Peak Parking Demand for the existing Madison House facility located at 12215 NE 128th Street. This existing facility has sufficient parking that has been documented. Parking requirements are governed by City Code and the City code for the existing use requires higher parking values. A peak parking demand study was conducted for the existing facility. The Peak Parking Demand was calculated to be 0.52 stall per unit with the average demand significantly less.

Based on the collected parking demand data the existing Madison House facility has sufficient parking.

Please contact me at 206.762.1978 or email me at <u>jaketraffic@comcast.net</u> if you have any questions.





APPENDIX

The Kirkland Zoning Code (KZC) requires that adequate on-site parking be provided for all land uses and specifies parking requirements based on the proposed use (use zone charts) and regulations in KZC Chapter 105. The Planning Department can help an applicant determine the appropriate use listing and related parking requirements. Typically, parking is reviewed with the building permit review for a proposal. However, there are two scenarios where a parking review may require a parking study and review by the City Transportation Engineer. They are:

- 1. The KZC does not specify a parking requirement for a use and the applicant must provide the necessary parking data for staff to determine the parking demand (see Section I below).
- 2. An applicant wants to reduce the City's parking requirement. The applicant can request a parking modification review and provide the City with the data as required by the City's Transportation Engineer and as specified in KZC Section 105.103.3.c (see Section II below).

I. Number of Parking Spaces - Not Specified in Use Zones

There are some instances where the KZC does not list a specific parking space requirement. If the KZC does not specify a parking requirement for a particular use in a particular zone, the Planning Official will establish a parking requirement based on the actual parking demand of existing uses that are similar to the proposed use (KZC Section 105.25). This determination will be made based on the City Transportation Engineer's review of available data and/or the applicant's parking study.

II. Modification to Reduce Number of Required Spaces

KZC Section 105.103.3.c allows an applicant to decrease the number of required parking stalls if the proposed number of spaces, documented by an adequate and thorough parking demand and utilization study, is sufficient to fully serve the use. The study is required to be prepared by a licensed transportation engineer or other qualified professional and must analyze the operational characteristics of the proposed use which justify a parking reduction. The scope of the study must be approved by the City Transportation Engineer.

Prior to making a decision on the Parking Modification application, public notice regarding the modification request is required. The Planning Official makes the final decision on the request based on a recommendation by the City Transportation Engineer. If the proposed development of the subject property requires approval through Process I, IIA, or IIB, described in Chapters 145, 150 and 152 KZC, respectively, a request for a modification will be considered as part or that process under the provisions of KZC Section 105.103.

Additional Questions?

For more information about the general parking review process or code requirements, please contact the Planning Department at (425) 587-3235 and ask to speak with a planner. For more information about parking study submittal requirements, please contact Thang Nguyen, Transportation Engineer, Public Works Department at tnguyen@kirklandwa.gov or (425) 587 3869.

APPLICATION CHECKLIST

This application packet is design to obtain all the information necessary to allow the City to make a well informed decision on your application. Please refer to the application checklist below for a list of materials which must be submitted to complete your application. For some applications, it will not be necessary to submit all of the listed materials.

A meeting or discussion with the City Transportation Engineer is required in order to obtain guidance on the application materials that must be submitted. Please consult with Thang Nguyen, Transportation Engineer, Public Works at tnguyen@kirklandwa.gov or (425) 587-3869 to determine which items below should be submitted. Please do not turn in your application until all materials that apply to your proposal have been checked off. A meeting with a planner from the Planning Department is encouraged to discuss City parking requirements.

RETURN THIS CHECKLIST WITH APPLICATION TO THE PLANNING DEPT.

	Required	Applicant to Check if Submitted
<u>Application</u>	,	
A completed application form		
Applicable Fees		
Note: Additional review by the City Transportation Engineer in excess of the base fee will be billed on an hourly basis		
<u>Plans</u>	developed	site
A site plan drawn at 1"=20' or comparable scale showing:		
a. Property lines		
b. Existing and/or proposed structures		
c. Parking area(s) with parking stalls numbered		
d. Floor plan(s) showing existing and/or proposed tenant spaces.		
 e. Gross floor area* calculations (include breakdown for each tenant) 		
f. For residential projects, include total number of units and breakdown of units categorized by number of bedrooms.		

	Required by City	Applicant to Check if Submitted
Parking Study —Funded by the applicant and prepared by a licensed transportation engineer or other qualified professional. The scope of the study must be approved by the City Transportation Engineer.	-	0.000
a. Description of the project and proposed use.		
b. Description of existing tenant(s) business/use.		
 Parking calculations based on City requirements and gross floor area calculations* 		
d. For the subject property, at least two (2) days of data for morning, afternoon and evening hours, or as otherwise approved or required by the City traffic engineer.		
Other:		
e. At least two (2) days of data for morning, afternoon and evening hours of an existing comparable use , or as otherwise approved or required by the City traffic engineer.		
Other:		
 f. If nationally accepted Transportation Demand Management (TDM) measures are proposed, submit data supporting effectiveness of proposed TDM measures. 		
g. Employee data		
h. Customer/visitor data		
i. Other data as required by the City Transportation Engineer:	- []	
j. Analysis of parking demand and utilization data.		
* Gross Floor Area is defined as the total square footage of all floors in a structure as measured from exterior wall of the structure or, if the structure does not have walls, from each outer edge of the regross floor area. See Chapter 115 KZC.	n either the interion of. Exterior areas	or surface of each s may constitute

			Sta	IT Use Uniy: File No.	IRAN
	ease check appropriate revi	5.5			
\nearrow	Determine Parking Demand	🔀 Parking	Modification Re	quest	
ag	PLICANT (Note: If the applicant - see next page)				
Ap	plicant name:	Snograss	Day	ytime phone: 1.36	0.528.3343
Mg	iling address: 101 C	114	SE.		
		e: Zip code	e: /// E-r	naii:	
	NERAL INFORMATION				
1.	Property address (if vacant, in			reet and/or nearest i	ntersection):
۷.	ı ax parceı numper(s):	5284000	70		***************************************
3.	Description of the proposed p	roject (attach addit	tional pages if n	ecessary):	
	Txisting Inde	pedent Liv	ing and	Assistal Liv	17
4.	Project data:				
	Use	Existing	Proposed	Single Family	Multi-Family
	产品展览上的产品产品	Gross Floor Area*	Gross Floor Are	a* Units	Units
	General Office				
	Medical/Dental/Vet.				
	Retail				
	Restaurant		1000		
	Industrial/Manufacturing				
	Institutional				
	Other: TLUEALU	147 Just			1
	Residential				
	* Gross Floor Area is defined as to surface of each exterior wall of the Exterior areas may constitute gross	e structure or, if the sa	tructure does not h		
	TOTAL GROSS FLOOR AREA C	F BUILDING:			
5.	Is there an active building p property? \square YES \square NO	ermit or has there		vious zoning permits t is the file number?	for the subject
6.	Have you discussed or met w study prior to submitting your		ortation Enginee		e of the parking
	UR APPLICATION WILL NOT BE VE BEEN SUBMITTED. You ma				

before beginning any activity.

STATEMENT OF OWNERSHIP/DESIGNATION OF AGENT

The undersigned property owner(s), under penalty of perjury, each state that we are all of the legal owners of the property described in Exhibit A, which is attached to this application, and designate _____ to act as our agent with respect to this application.

AUTHURLIT TO ENTER PROPERTY

I/we acknowledge that by signing this application I/we are authorizing employees or agents of the City of Kirkland to enter onto the property which is the subject of this application during the hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, for the sole purpose of making any inspection of the limited area of the property which is necessary to process this application. In the event the City determines that such an inspection is necessary during a different time or day, the applicant(s) further agrees that City employees or agents may enter the property during such other times and days as necessary for such inspection upon 24 hours notice to applicant(s), which notice will be deemed received when given either verbally or in writing.

HOLD HARMLESS AGREEMENT -- READ CAREFULLY BEFORE SIGNING

The undersigned in making this application certifies under penalty of perjury, the truth and/or accuracy of all statements, designs, plans and/or specifications submitted with said application and hereby agrees to defend, pay, and save harmless the City of Kirkland, its officers, employees, and agents from any and all claims, including costs, expenses and attorney's fees incurred in investigation and defense of said claims whether real or imaginary which may be hereafter made by any person including the undersigned, his successors, assigns, employees, and agents, and arising out of reliance by the City of Kirkland, its officers, employees and agents upon any maps, designs, drawings, plans or specifications, or any factual statements, including the reasonable inferences to be drawn therefrom contained in said application or submitted along with said application.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

	Applicant		Property Owner #1	
Signature: Name:		Signature:		_
Address:		Address:		
Telephone:		Telephone:		-
Email:		Email:		
	Agent (Other than Applicant)		Property Owner #2	
Signature:		Signature:		
Name:		Name:		
Address:		Address:		
				_
Telephone:		Telephone:		
Email:		Email:		

From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]

Sent: Friday, March 20, 2015 9:54 AM

To: 'Iris Cabrera'

Cc: 'Jeff Yates'; 'Ron Hastie'; 'Austin Groves'; 'Josh Snodgrass' **Subject:** FW: 2015.023 - Kirkland Memory Care - Parking

Iris discussed ul Iri7 on phone 03.25.2015

I called Thang this AM and received a message he is out till the end of the month.

2 - Items

Parking the project includes lot line adjustment thus the existing facility parking (that is sufficient and works as is) that is less than Kirkland code has been identified as potentially requiring a variance. The ITE data for Independent/Assisted Care LUC indicates less parking than what is called out in the City code; other City codes reflect the lower parking needed by these type of facilities.

Secondly what level of Traffic Study would be needed for a project generating less than 20 PMPHT's?

Contact me with any questions.

Mark 206.762.1978 206.799.5692 c

From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]

Sent: Tuesday, March 17, 2015 1:46 PM

To: 'Thang Nguyen'

Cc: 'Jeff Yates'; 'Ron Hastie'; 'Austin Groves'; 'Josh Snodgrass'

Subject: 2015.023 - Kirkland Memory Care - Parking

Thang

I have been contacted regarding a potential 60 unit (80 bed Memory Care facility) to be located e/o of an existing 147 units retirement facility that provides 77 parking stalls that are more than sufficient. I understand this existing facility is currently about 50% Independent Living and 50% Assisted Living and over time the Assisted Living portion would increase to about 75% over time.

The proposed project is to the east and comprises 60 units with 80 beds that per ITE would generate about 18 PMPHT's and need 25 Parking Spaces (per ITE Parking Generation). The site plan indicates 80 parking stalls to be provided meeting code that I believe is excessive.

Initial review of the City Zoning Code Parking indicates that Independent Living requires 1.7 parking spaces per unit and Assisted Living it is 1 per unit. These rates are inconsistent (excessive) with ITE Parking Generation, other local jurisdictions and my experience.

Has the City updated the Zoning Code to better reflect parking demand for Assisted Care facilities?

Please review and provide me feedback.

Mark



Mark J Jacobs, PE, PTO

From:

truthindata@hotmail.com on behalf of Jen H [team@tc2inc.com]

Sent:

Thursday, April 09, 2015 11:47 AM

To:

Mark Jacobs

Subject:

Data - 2015.023 Kirkland

Follow Up Flag: Follow up

Flag Status:

Red

Attachments:

JTE15044M_Kirkland.pdf; JTE15044M_Kirkland.xlsx

Mark,

Attached is the data in PDF and Excel.

Total Stall Count: 78

Tuesday occupancy count: Taken at 11:54AM, total occupancy of 39 parked cars. I stall was blocked by construction.

Thursday occupancy count: Taken at 11:57AM, total occupancy of 51 cars. 6 stalls were blocked by construction.

When I checked the data, we were off by a total of 4 cars (recorded 47).

Please let me know if you have any questions. I'll be sending the invoice over shortly.

Thanks!

Jen

LOOK! OUR ADDRESS HAS CHANGED

Jen and the TC2 inc Team

 TC^2 inc: Traffic Count Consultants, Inc (DBE/WBE Certified)

Team@TC2inc.com
Web Site: TC2inc.com
5450 Reflection St E
Fife, WA 98424

Phone: (253) 926-6009 Fax: (253) 922-7211

7

Tuesday March 31 2015, Noon to Wednesday April 1 2015, Noon

	East D	East Driveway (Closest)	losest)	West D	West Driveway (Farthest)	rthest)	Contra	Contractor-Type Vehicles	ehicles	Tot	Totals
Time	n	Out	Truck	п	Out	Truck	드	Out	Truck	ll	Out
12:00:00 PM	0	3	1	2	0	0	1	0	0	3	3
12:15:00 PM	0	2	0	4	1	1	0	1	0	4	4
12:30:00 PM	1	4	1	2	⊣	0	1	1	0	4	9
12:45:00 PM	1	1	0	2	1	0	0	0	0	3	2
Totals	2	10	2	10	က	1	2	2	0	14	15
1:00:00 PM	0	3	0	2	0	0	0	0	0	2	3
1:15:00 PM	0	0	0	2	0	0	1	0	0	3	0
1:30:00 PM	2	3	0	Н	0	0	1	1	0	4	4
1:45:00 PM	4	9	2	9	0	0	0	0	0	10	9
Totals	9	12	2	11	0	0	2	1	0	19	13
2:00:00 PM	1	1	1	2	0	0	0	0	0	3	1
2:15:00 PM	1	0	0	0	0	0	3	1	0	4	1
2:30:00 PM	1	12	1	2	0	0	1	1	0	4	13
2:45:00 PM	0	3	0	2	0	0	0	1	0	2	4
Totals	8	16	2	9	0	0	4	3	0	13	19
3:00:00 PM	1	3	0	8	0	0	⊣	1	0	5	4
3:15:00 PM	0	2	0	0	0	0	0	0	0	0	2
3:30:00 PM	2	4	0	0	0	0	0	0	0	2	4
3:45:00 PM	3	5	0	2	0	0	0	0	0	5	5
Totals	9	14	0	2	0	0	1	1	0	12	15
4:00:00 PM	0	П	0	1	0	0	0	1	0	н	2
4:15:00 PM	0	3	0	2	0	0	0	0	0	2	3
4:30:00 PM	1	П	0	1	0	0	0	0	0	2	1
4:45:00 PM	0	Н	0	3	0	0	0	1	0	က	2
Totals	1	9	0	7	0	0	0	2	0	80	8



Tuesday March 31 2015, Noon to

Wednesday April 1 2015, Noon

	East D	East Driveway (Closest)	losest)	West D	West Driveway (Farthest)	rthest)	Contra	Contractor-Type Vehicles	'ehicles	Tot	Totals
Time	드	Out	Truck	п	Out	Truck	ll	Out	Truck	ll	Out
5:00:00 PM	0	2	0	1	0	0	0	0	0	1	2
5:15:00 PM	0	2	0	П	0	0	0		0	1	2
5:30:00 PM	1	Н	0	0	0	0	2	1	0	3	2
5:45:00 PM	0	0	0	1	1	0	0	0	0	1	1
Totals	1	5	0	3	1	0	2	1	0	9	7
6:00:00 PM	0	0	0	0	0	0	0	0	0	0	0
6:15:00 PM	0	1	0	3	0	0	0	1	0	3	2
6:30:00 PM	П	2	0	5	П	0	0	2	0	9	5
6:45:00 PM	0	1	0	2	0	0	0	0	0	5	1
Totals	1	4	0	13	1	0	0	3	0	14	8
7:00:00 PM	0	0	0	0	0	0	0	0	0	0	0
7:15:00 PM	0	0	0	0	0	0	0	0	0	0	0
7:30:00 PM	0	2	0	1	0	0	0	0	0	1	2
7:45:00 PM	0	2	0	0	0	0	1	1	0	7	3
Totals	0	4	0	1	0	0	1	1	0	2	5
8:00:00 PM	0	1	0	0	0	0	0	0	0	0	1
8:15:00 PM	0	0	0	1	1	0	0	0	0	н	1
8:30:00 PIM	0	3	0	0	0	0	0	0	0	0	3
8:45:00 PM	0	9	0	0	4	0	0	0	0	0	10
Totals	0	10	0	1	5	0	0	0	0	1	15
9:00:00 PM	0	0	0	0	0	0	0	0	0	0	0
9:15:00 PM	0	1	0	0	0	0	0	0	0	0	н
9:30:00 PM	0	0	0	1	0	0	0	0	0	1	0
9:45:00 PM	0	1	0	0	0	0	0	0	0	0	1
Totals	0	2	0	1	0	0	0	0	0	1	2

Tuesday March 31 2015, Noon to Wednesday April 1 2015, Noon

i	East D	East Driveway (CI	(Closest)	West D	West Driveway (Farthest)	rthest)	Contra	Contractor-Type Vehicles	'ehicles	Tot	Totals
Time	п	Out	Truck	드	Out	Truck	u	Out	Truck	ul	Out
10:00:00 PM	1	0	0	0	0	0	0	0	0	1	0
10:15:00 PM	Н	0	0	0	0	0	0	0	0	1	0
10:30:00 PM	0	2	0	0	0	0	0	0	0	0	7
10:45:00 PM	0	0	0	0	0	0	0	0	0	0	0
Totals	2	2	0	0	0	0	0	0	0	2	2
11:00:00 PM	0	0	0	0	0	0	0	0	0	0	0
11:15:00 PM	0	0	0	0	0	0	0	0	0	0	0
11:30:00 PM	0	1	0	0	0	0	0	0	0	0	1
11:45:00 PM	0	0	0	0	0	0	0	0	0	0	0
Totals	0	1	0	0	0	0	0	0	0	0	1
12:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
12:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
12:30:00 AM	0	0	0	0	0	0	0	0	0	0	0
12:45:00 AM	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	0	0	0	0
1:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
1:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
1:30:00 AM	0	0	0	0	0	0	0	0	0	0	0
1:45:00 AM	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	0	0	0	0
2:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:30:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:45:00 AM	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	0	0	0	0



Tuesday March 31 2015, Noon to Wednesday April 1 2015, Noon

	East D	East Driveway (Closest)	losest)	West D	West Driveway (Farthest)	irthest)	Contrac	Contractor-Type Vehicles	ehicles	Tol	Totals
Time	ll	Out	Truck	ln	Out	Truck	п	Out	Truck	ll	Out
3:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
3:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
3:30:00 AM	0	0	0	0	0	0	0	0	0	0	0
3:45:00 AM	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	0	0	0	0
4:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
4:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
4:30:00 AM	0	0	0	0	0	0	0	0	0	0	0
4:45:00 AM	2	0	0	0	0	0	0	0	0	2	0
Totals	2	0	0	0	0	0	0	0	0	2	0
5:00:00 AM	1	1	0	2	1	0	0	0	0	3	2
5:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
5:30:00 AM	1	1	0	1	0	0	0	0	0	2	1
5:45:00 AM	2	1	0	0	0	0	1	0	0	3	1
Totals	4	က	0	3	1	0	1	0	0	8	4
6:00:00 AM	3	2	0	1	0	0	0	0	0	4	2
6:15:00 AM	3	0	0	0	0	0	0	0	0	3	0
6:30:00 AM	1	0	0	1	0	Н	0	0	0	2	0
6:45:00 AM	0	2	1	0	0	0	2	1	0	2	ю
Totals	7	4	1	2	0	1	2	1	0	11	5
7:00:00 AM	1	0	0	1	0	1	0	0	0	2	0
7:15:00 AM	3	3	1	2	0	0	1	0	0	9	'n
7:30:00 AM	1	4	0	0	0	0	0	1	0	₽	5
7:45:00 AM	3	Н	0	0	0	0	0	0	0	8	1
Totals	00	∞	1	8	0	1	1	1	0	12	9



Tuesday March 31 2015, Noon to Wednesday April 1 2015, Noon

	East D	East Driveway (Cl	(Closest)	West D	West Driveway (Farthest)	arthest)	Contra	Contractor-Type Vehicles	/ehicles	Tot	Totals
	п	Out	Truck	ln	Out	Truck	므	Out	Truck	드	Out
	3	2	0	0	0	0	0	0	0	æ	2
	0	0	0	2	0	0	1	1	0	8	1
	Т	1	0	0	0	0	0	0	0	н	1
8:45:00 AM	1	1	0	0	1	0	0	1	0	1	8
	5	4	0	2	1	0	1	2	0	80	7
9:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
9:15:00 AM	2	4	0	5	0	0	2	0	0	6	4
9:30:00 AM	0	2	0	0	0	0	0	0	0	0	2
9:45:00 AM	1	4	1	3	0	0	0	0	0	4	4
	က	10	1	8	0	0	2	0	0	13	10
10:00:00 AM	0	3	0	3	0	0	2	0	0	2	3
10:15:00 AM	1	9	1	2	. 0	0	1	0	0	4	9
10:30:00 AM	П	П	0	1	0	0	2	1	0	4	2
10:45:00 AM	0	4	0	3	0	0	0	0	0	8	4
	2	14	1	. 6	0	0	5	1	0	16	15
11:00:00 AM	1	5	0	2	1	0	0	0	0	3	9
11:15:00 AM	1	2	0	5	0	0	2	2	0	8	4
11:30:00 AM	1	Н	۲	0	0	0	0	1	0	1	2
11:45:00 AM	1	2	1	4	0	0	0	1	0	2	က
	4	10	2	11	1	0	2	4	0	17	15



Wednesday April 1 2015, Noon to Thursday April 2 2015, Noon

									2000				Ar 2-400-1-1	Maring A. Im.												
Totals	Out	4	7	2	2	18	4	3	9	1	14	4	2	12	2	20	2	4	9	0	12	3	4	1	1	0
10	ll	5	9	က	0	14	3	8	က	8	22	3	0	5	4	12	2	3	0	2	7	1	2	2	0	v
ehicles	Truck	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Contractor-Type Vehicles	Out	0	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contrac	u	0	1	0	0	1	0	1	0	0	1	0	0	0	1	1	1	0	0	0	1	0	0	0	0	c
rthest)	Truck	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Driveway (Farthest)	Out	0	Н	0	0	1	0	0	П	0	1	0	0	0	0	0	0	1	2	0	3	0	1	0	0	1
West Dr	ㅁ	4	5	3	0	12	3	7	3	2	15	3	0	5	1	6	0	3	0	1	4	1	2	1	0	4
(Closest)	Truck	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Driveway (Cl	Out	4	9	5	2	17	3	2	4	1	10	4	2	12	2	20	2	3	4	0	6	3	3	1	1	8
East Dr	드	1	0	0	0	1	0	0	0	9	9	0	0	0	2	2	1	0	0	1	2	0	0	1	0	1
	Time	12:00:00 PM	12:15:00 PM	12:30:00 PM	12:45:00 PM	Totals	1:00:00 PM	1:15:00 PM	1:30:00 PM	1:45:00 PM	Totals	2:00:00 PM	2:15:00 PM	2:30:00 PIM	2:45:00 PM	Totals	3:00:00 PM	3:15:00 PM	3:30:00 PM	3:45:00 PM	Totals	4:00:00 PM	4:15:00 PM	4:30:00 PM	4:45:00 PM	Totals



Wednesday April 1 2015, Noon to Thursday April 2 2015, Noon

	East D	East Driveway (Closest)	losest)	West D	West Driveway (Farthest)	arthest)	Contra	Contractor-Type Vehicles	ehicles	Tot	Totals
Time	п	Out	Truck	п	Out	Truck	ll	Out	Truck	ln	Out
5:00:00 PM	0	0	0	0	0	0	0	1	0	0	1
5:15:00 PM	0	2	0	0	0	0	0	0	0	0	2
5:30:00 PM	0	Н	0	0	0	0	1	2	0	1	3
5:45:00 PM	1	0	0	2	0	0	0	0	0	3	0
Totals	1	က	0	2	0	0	1	3	0	4	9
6:00:00 PM	0	Т	0	1	0	0	0	0	0	1	1
6:15:00 PM	0	Н	0	1	1	0	0	0	0	1	2
6:30:00 PM	0	0	0	1	0	0	0	1	0	1	1
6:45:00 PM	0	2	0	1	0	0	0	0	0	1	2
Totals	0	4	0	4	1	0	0	1	0	4	9
7:00:00 PM	0	1	0	1	0	0	0	0	0	1	1
7:15:00 PM	0	П	0	0	0	0	0	1	0	0	2
7:30:00 PM	1	1	0	0	1	0	0	0	0	1	2
7:45:00 PM	0	1	0	1	. 0	0	0	0	0	1	н
Totals	1	4	0	2	1	0	0	1	0	3	9
8:00:00 PM	0	1	0	0	0	0	0	0	0	0	1
8:15:00 PM	0	2	0	1	0	0	0	0	0	1	2
8:30:00 PM	1	3	0	1	1	0	0	0	0	2	4
8:45:00 PM	0	1	0	0	0	0	0	0	0	0	1
Totals	1	7	0	2	1	0	0	0	0	æ	8
9:00:00 PM	0	0	0	0	0	0	0	0	0	0	0
9:15:00 PM	0	0	0	1	0	0	0	0	0	7	0
9:30:00 PIM	0	1	0	1	0	0	0	0	0	1	1
9:45:00 PM	0	0	0	0	0	0	0	0	0	0	0
Totals	0	1	0	2	0	0	0	0	0	2	1



Wednesday April 1 2015, Noon to Thursday April 2 2015, Noon

	East D	East Driveway (C	(Closest)	West D	West Driveway (Farthest)	rthest)	Contra	Contractor-Type Vehicles	/ehicles	Tot	Totals
	ln	Out	Truck	п	Out	Truck	드	Out	Truck	ll	Out
	2	0	0	0	0	0	0	0	0	2	0
	0	П	0	0	0	0	0	0	0	0	1
10:30:00 PM	0	П	0	0	0	0	0	0	0	0	1
10:45:00 PM	0	0	0	0	0	0	0	0	0	0	0
_	2	2	0	0	0	0	0	0	0	2	2
11:00:00 PM	0	0	0	0	0	0	0	0	0	0	0
11:15:00 PM	0	0	0	1	0	0	0	0	0	1	0
11:30:00 PM	0	1	0	0	0	0	0	0	0	0	1
11:45:00 PM	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	1	0	0	0	0	0	1	1
12:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
12:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
12:30:00 AM	0	0	0	0	0	0	0	0	0	0	0
12:45:00 AM	0	0	0	0	0	0	0	0	0	0	0
_	0	0	0	0	0	0	0	0	0	0	0
1:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
1:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
1:30:00 AM	0	0	0	0	0	0	0	0	0	0	0
1:45:00 AM	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
2:00:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:15:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:30:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:45:00 AM	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0



Wednesday April 1 2015, Noon to

Thursday April 2 2015, Noon



Wednesday April 1 2015, Noon to Thursday April 2 2015, Noon

	East E	East Driveway (C	(Closest)	West D	West Driveway (Farthest)	irthest)	Contra	Contractor-Type Vehicles	/ehicles	Tol	Totals
Time	드	Out	Truck	므	Out	Truck	ᄪ	Out	Truck	드	Out
8:00:00 AM	2	, 3	0	0	0	0	0	0	0	2	3
8:15:00 AM	0	0	0	0	0	0	0	1	0	0	1
8:30:00 AM	1	3	2	2	0	0	0	0	0	3	3
8:45:00 AM	0	1	0	1	0	0	0	0	0	1	1
Totals	8	7	2	3	0	0	0	1	0	9	80
9:00:00 AM	1	2	0	2	0	0	1	1	0	4	8
9:15:00 AM	0	0	0	3	0	1	1	1	0	4	1
9:30:00 AM	0	0	0	1	0	0	0	0	0	1	0
9:45:00 AM	1	2	1	1	0	0	0	0	0	2	2
Totals	2	4	1	7	0	1	2	2	0	11	9
10:00:00 AM	1	9	П	3	0	0	1	0	0	5	9
10:15:00 AM	0	2	0	5	0	0	1	0	0	9	2
10:30:00 AM	2	5	0	9	0	0	0	0	0	8	5
10:45:00 AM	0	5	0	4	0	0	0	1	0	4	9
Totals	8	18	1	18	0	0	2	1	0	23	19
11:00:00 AM	0	9	0	5	0	0	0	0	0	5	9
11:15:00 AM	0	5	0	3	0	0	0	0	0	e	5
11:30:00 AM	2	2	0	4	0	0	0	0	0	9	2
11:45:00 AM	1	2	0	4	0	0	0	0	0	5	2
Totals	3	15	0	16	0	0	0	0	0	19	15



Land Use: 252 Senior Adult Housing—Attached

Description

Senior adult housing consists of attached independent living developments, including retirement communities, age-restricted housing and active adult communities. These developments may include limited social or recreational services. However, they generally lack centralized dining and on-site medical facilities. Residents in these communities live independently, are typically active (requiring little to no medical supervision) and may or may not be retired. Congregate care facility (Land Use 253) and continuing care retirement community (Land Use 255) are related uses.

Database Description

The database consisted of all suburban study sites.

Average parking supply ratio: 1.0 space per dwelling unit (three study sites).

Study Sites/Years

Downingtown, PA (2008); Parkesburg, PA (2008); Spring City, PA (2008)

4th Edition Source Number

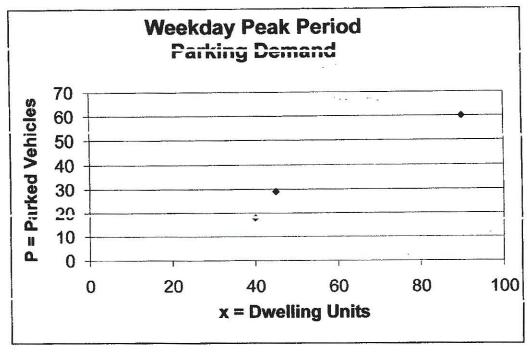
1131



Land Use: 252 Senior Adult Housing—Attached

Average Peak Period Parking Demand vs. Dwelling Units On a: Weekday

Statistic	Peak Period Demand
Peak Period	11:00 p.m5:00 a.m.
Number of Study Sites	3 .
Average Size of Study Sites	59 dwelling units
Average Peak Period Parking Demand	0.59 vehicles per dwelling unit
Standard Deviation	0.12
Coefficient of Variation	20%
Range	0.45-0.67 vehicles per dwelling unit
85th Percentile	0.66 vehicles per dwelling unit
33rd Percentile	0.58 vehicles per aweiling unit



Actual Data Points

Land Use: 254 Assisted Living

Future parking surveys should include the building area, number of dwelling units, occupied dwelling units, bedrooms, beds and employees.

Study Sites/Years

Park Ridge, IL (1988); Arlington County, VA (1989); Petaluma, CA (1998); San Rafael, CA (1998); Fanwood, NJ (2001); Mountaineide, NJ (2001); Westfield, NJ (2001); East Northport, NY (2002); Glen Cove, NY (2002); Huntington, NY (2002); Plainview, NY (2002); Westbury, NY (2002); Encinitas, CA (2007); San Diego, CA (2007); Santa Barbara, CA (2007); Cherry Hill, NJ (2008); Mt. Laurel, NJ (2008); Woodbury, NJ (2008); Memphis, TN (2008); Germantown, TN (2008); Haverford Township, PA (2009); Lower Merion Township, PA (2009); Middletown Township, PA (2009); West Whiteland Township, PA (2009)

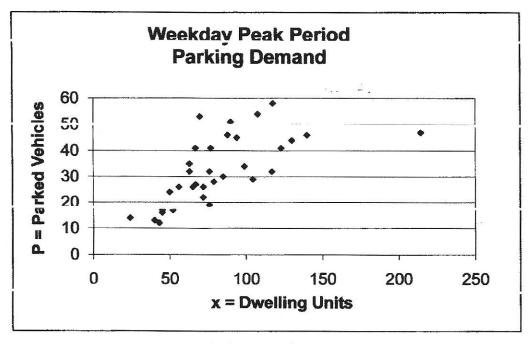
4th Edition Source Numbers

1015, 1100, 1122, 1139, 1151

Land Use: 254 Assisted Living

Average Peak Period Parking Demand vs. Dwelling Units On a: Weekday

Statistic	Peak Period Demand
Peak Period	9:00 a.m3:00 p.m.
Number of Study Sites	33
Average Size of Study Sites	82 dwelling units
Average Peak Period Parking Demand	0.41 vehicles per dwelling unit
Standard Deviation	0.12
Coefficient of Variation	29%
95% Confidence Interval	0.37-0.46 vehicles per dwelling unit
Range	0.22-0.76 vehicles per dwelling unit
85th Percentile	0.54 vehicles per dwelling unit
33rd Percentile	0.34 vehicles per dwelling unit



Actual Data Points